TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 27, 2012

Mr. Gary G. Miller, Remedial Project Manager
U.S. EPA, Region 6
Superfund Division (6SF-RA)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: December 29, 2010 Draft Memorandum to Gary Miller, U.S.EPA Region 6, *Draft Addendum 3 to the Soil Sampling and Analysis Plan (SAP) for Additional Soil Sampling South of Interstate Highway 10 (IH-10), and South Impoundment Soil Analysis Report 1*
San Jacinto River Waste Pits Federal Superfund Site
Harris County, Texas

Dear Mr. Miller:

The Texas Commission on Environmental Quality (TCEQ) Remediation and Toxicology Divisions have completed review of the December 29, 2010 Draft Memorandum to Gary Miller, project manager, U.S. Environmental Protection Agency (EPA). The Draft Memorandum indicates that the Addendum 2 to the Soil Sampling and Analysis Plan (SAP) was prepared in response to a letter from the EPA (Miller 2011a, pers. comm., dated December 9, 2011), requiring the collection of additional soil and other samples south of IH-10. In the comments on the draft Preliminary Site Characterization Report, the EPA has indicated that uncertainties about the distribution of chemicals in soil in the south impoundment area are unacceptable (Miller 2011b, pers. comm., dated December 9, 2011).

Draft Addendum 3 to the Soil Sampling and Analysis Plan (SAP) for Additional Soil Sampling South of Interstate Highway 10 (I-10), San Jacinto River Waste Pits Superfund Site

Selection of Soil Analytes

According to the proposal, the Phase II sampling and analysis will be conducted incrementally. Four soil cores (proposed stations SJSB022, SJSB023, SJSB024, and SJSB025) will be collected first (all intervals will be analyzed for dioxins and furans, grain size, and total organic carbon). These proposed sample locations are within the southern impoundment perimeter. If concentrations of toxicity equivalent for dioxin and furans (TEQ_{DF}) in surface or subsurface soils of these four cores are less than or

equal to TEQ_{DF} concentrations found in the most contaminated interval of previously-sampled location SJSB008 (1,880 ng/kg dry weight; 6-8 foot interval), this will be interpreted to indicate that the southern extent of paper mill waste has been described, and no samples south of the estimated impoundment perimeter will be analyzed. This is not reasonable. First, it infers that TEQ_{DF} concentrations above 1,880 ng/kg are indicative of paper mill waste. What is the basis for this assumption? Secondly, it does not adequately address the question of nature and extent of dioxins/furans in Site soils if the southern limit of the assessment is based on this concentration.

Additionally, this section states that if soil concentrations in the four southernmost cores are less than or equal to the TEQ_{DF} concentration in the most contaminated interval of SJSB008, it will be interpreted to indicate that the southern extent of the waste has been described. If those samples were to equal the most contaminated interval of SJSB008, how would this give confidence that the southern extent of the waste has been defined? The TCEQ is requesting a rational for this statement.

Table 2

Not applicable (NA) is given for the method detection limit (MDL) and method reporting limit (MRL) for total polychlorinated biphenyls (PCBs); however, congener PCBs and their MDL/MRLs are not listed (except for aroclors). It is unclear if PCB congeners are being analyzed. In this table, does total PCBs represent the addition of the aroclor data? If that is the case, it should be indicated as aroclor sum and not total PCBs; total PCBs implies the sum of PCB congeners. As stated in previous comments, due to the potential for weathering to cause aroclors not to be detected when PCBs may in fact be present, the TCEQ will consider congener-specific analysis of PCBs prior to being screened out on aroclor analysis.

It appears that dioxin-like PCBs were not considered in the dioxin TEQ. As stated in previous comments, the EPA September 2009 draft *Recommended Toxicity Equivalency Factors (TEFs) for Human Health Risk Assessments of Dioxin and Dioxin-Like Compounds* recommends the use of the consensus TEF values for 2,3,7,8-tetrachlorodibenzo-p-dioxin and dioxin-like compounds, including polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), and polychlorinated biphenyls (PCBs), published in 2005 by the World Health Organization (WHO). TRRP Figure: 30 TAC §350.76(d)(2)(B) indicates the TEFs to be used for dioxin-like compounds, which also includes dioxin-like PCBs. Although TRRP has not yet been revised to include the 2005 WHO TEFs, it is recommended that those TEFs be considered when calculating a TEQ, especially if they result in a higher TEQ.

Attachment - South Impoundment Soil Analysis, Report 1

4.1.1 Human Health Screening

The screening procedures in this section appear to be inconsistent with TCEQ Texas TRRP Rule, 30 TAC §350. According to this section, EPA Regional Screening Levels

(RSLs) for industrial soil were used as the primary source of screening values, and that TRRP Tier 1 Protective Concentration Levels (PCLs) for commercial/industrial soils were used if no EPA value was available; however, when compared to EPA RSLs used for the Human Health screening, there were some chemicals of interest (COIs) which had more conservative $^{Tot}Sed_{Comb}$ PCLs available. When using the lower $^{Tot}Sed_{Comb}$ PCLs, vanadium would be added to the list of exceedances. The table below shows the COIs in which there is a more conservative TRRP PCL available.

Analyte	Units	HH SV	30-acre C/I $^{Tot}Soil_{Comb}$ PCLs	Max Detection (<12in)	Max Detection (>12in)
Aluminum	mg/kg	9.90E+05	5.70E+05	11700.00	17,900
Antimony	mg/kg	4.10E+02	3.07E+02	1.00	6.7
Barium	mg/kg	1.90E+05	1.19E+05	413.00	2,040
Chromium	mg/kg	1.50E+06	1.01E+03	70.30	325
Cobalt	mg/kg	3.00E+02	2.73E+02	22.10	30.7
Copper	mg/kg	4.10E+04	3.89E+04	121.00	651
Mercury	mg/kg	4.30E+01	3.26E+04	0.16	2.81
Nickel	mg/kg	2.00E+04	7.94E+03	85.10	596
Silver	mg/kg	5.10E+03	2.27E+03	0.80	0.9
Vanadium	**mg/kg**	**5.20E+03**	**2.45E+01**	**52.10**	**54.3**
Zinc	mg/kg	3.10E+05	2.45E+05	4160.00	2,030
1,2-Dichlorobenzene	mg/kg	9.80E+06	5.71E+05		94

Bold=COI that would not screen out using the more conservative TRRP PCL

4.2.1 Human Health Screening Results

This section states that arsenic, TEQ_{DF}, and thallium exceed the human health screening value for subsurface soils deeper than 12 inches. Based on the above comment, vanadium also exceeds the human health screening value for soils deeper than 12 inches if the more conservative TRRP PCL is used in place of the RSL.

Table 2

This is an editorial comment. In the footnote for this table it states that boldface type indicates that the frequency of detection is greater than 5 percent; however, it appears to mean the opposite and leaves out the polychlorinated biphenyls.

Tables 4 & 8 and Table 7

In these tables, Total PCBs is identified as the sum of aroclors. However, the sum of the three aroclors given would be 844 ug/kg for Tables 4 & 8 and 445 ug/kg for Table 7. Instead, the given sum is 638 ug/kg and 427 ug/kg, respectively. Please explain the discrepancy.

Table 5

In the footnote for this table it states, "In addition to screening levels for individual congeners and Aroclors USEPA assigns a screening level to "PCBs". This value was used to screen total PCB Aroclors." Please provide the source for the EPA-assigned screening levels for PCBs, as noted in footnote "e".

If you have any questions please contact Vickie Reat at 512-239-6873, Tracie Phillips at 512-239-2269, or myself at 512-239-6368.

Sincerely,

Ludmila Voskov, P.G., Project Manager
Superfund Section
Remediation Division
Texas Commission on Environmental Quality

LV/cw

cc: Vickie Reat, TCEQ
Tracie Phillips, TCEQ
Chuck Stone, TCEQ